



PATENT  
Attorney Docket No. 18865-003600US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Joelle Sharp et al.

Application No.: 09/448,884

Filed: November 24, 1999

For: HYDROGEN ANNEAL FOR  
CREATING AN ENHANCED TRENCH  
FOR TRENCH MOSFETS

Examiner: David Vu

Art Unit: 2818

DECLARATION  
under 37 CFR § 1.131

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

We, the undersigned inventors, declare as follows:

1. We are all the co-inventors of the above-captioned patent application.
2. We understand that in an Office Action, certain of the claims have been rejected as unpatentable over Sato et al. Patent No. 6100,132, filed June 29, 1998.
3. Prior to June 29, 1998, we reduced to practice the invention disclosed and claimed in the relevant claims of the above application as evidenced by the following:
  - Exhibit A includes two SEM photos of cross sectional views of a test wafer. The top photo shows two trenches before hydrogen H<sub>2</sub> anneal, and the bottom photo shows the same trenches after the hydrogen H<sub>2</sub> anneal. As can be seen, the trenches have sharp corners before the H<sub>2</sub> anneal, but have rounded corners after the H<sub>2</sub> anneal.

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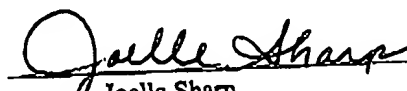
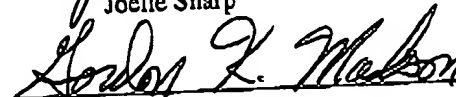
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- Exhibit B includes two pages outlining details of the H<sub>2</sub> anneal sequence of steps taken from the process recipe used to manufacture the test wafer from which the SEM photos in Exhibit A were obtained. The relevant portions of the two pages in Exhibit B are highlighted using rectangular boxes. As can be seen, the H<sub>2</sub> anneal (referred to as "H2 bake") is carried out at 1000°C temperature for 60 seconds.

4. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated 6-4-03

Dated 6-4-03

  
Joelle Sharp  
  
Gordon K. Madson